

Purpose of Chapter 6

The information presented in this chapter highlights some of the more significant environmentally sensitive areas within the GRP region that could be impacted as a result of an oil spill. Consistent with the overall purpose of the GRP's, this information is only intended to provide a level of detail required during the initial phase of spill response. During an actual event, additional resource information will be available from the resource trustee agencies supporting the Environmental Unit in the Planning Section. Specific resource concerns for areas that already have designated protection strategies in Chapter 4 of the GRP may be found in the "Resources Protected" column in the matrix describing the individual strategies.

The information provided in Chapter 6 is intended for use in:

- Preparing an initial ICS 232 form (Resources-at-Risk summary) for Incident Command
- Identifying those sites where it may be necessary to implement Flight Restriction Zones in order to prevent disturbance/injury to sensitive wildlife species.
- Identifying sensitive shoreline habitats to assist SCAT teams in their initial assessments and to help personnel in the Environmental Unit in developing appropriate cleanup strategies.

Chapter 6 consists of two sets of maps and tables - one for wildlife and the other for fish, shellfish and selected sensitive marine habitats. These data are presented separately, both for ease of reading and because each of the two data sets has slightly different applications within the context of spill response.

The wildlife maps and tables present information on the location and seasonal sensitivity of key wildlife resources. Types of data included here are concentration areas for waterfowl, marine birds and shorebirds; seabird colonies; nesting areas for sensitive species such as eagles, herons and falcons; and marine mammal haulout sites. This information is intended for the rapid identification of areas where significant wildlife oiling impacts could be anticipated and to denote areas where flight restriction zones may be required to protect sensitive wildlife. Each site depicted on these maps is identified by a unique number in order to facilitate the process of communicating Flight Restriction Zone recommendations to the Operations Section in ICS. The tables accompanying the wildlife maps present information on the season(s) during which sites may be particularly sensitive to disturbance.

The fish/shellfish/marine habitat maps present general information on the location of baitfish spawning beaches, herring spawning areas, streams used by anadromous salmonids, hardshell clam concentrations, and kelp and eelgrass beds. This information will be most useful to personnel involved in assessing initial risks to fish and shellfish resources and to those conducting initial beach reconnaissance, pending availability of more detailed resource information and the formation of SCAT teams.

Because the operational uses of this information differ from those of the wildlife data, individual site identification numbers have not been assigned. Tables associated with these maps will identify the seasonal sensitivity of each resource. In addition, notes accompanying each table will provide information on the general distribution and seasonal sensitivity of those resources that are not mapped but may occur anywhere in the GRP region (ex. juvenile salmonids in shallow nearshore waters).

6.0 Sensitive Resource Description

6.1 Fisheries

Willapa Bay contains a wide variety of fisheries resources. These include Pacific salmon, baitfish resources such as Pacific Herring, and surf smelt, shellfish resources such as native oysters, Pacific oysters, crabs, cockle clams, Eastern clams, Manila, Horse clams, and other species of aquatic life.⁹

Adult and juvenile life stages of a number of ecologically and economically important species including salmon, marine fish, baitfish, and shellfish as well as the plankton community are considered to be ubiquitous in distribution and therefore, are not displayed on maps.

6.2 Wildlife

Marine Mammals

Both Grays Harbor and Willapa Bay play a significant role in the life history of our state's harbor seal population. Both estuaries are used year-round as resting and feeding areas. Two features make these estuaries unique, the presence of numerous haulout sites scattered among the islands and tidal flats, and an abundant year-round food supply. Seals are most abundant during spring and summer months; roughly April through September. During this period, these estuaries account for almost 40% of Washington's statewide population. Analysis of 1992 aerial survey data yielded a peak population estimate of over 11,000 seals (including over 2400 pups) for the two estuaries combined.

Pupping occurs from April through July with the peak occurring in late May and early June. Maximum numbers of haulout sites are occupied during this season as females move to peripheral areas throughout the estuaries to give birth and nurse their young. Closely associated mother/pup pairs may still be present through early August. During the period from July to September seal numbers in the estuaries remain high as adults go through their annual molt and recently weaned pups learn to feed on their own. Seal numbers begin to decrease in September as many animals begin to leave the estuaries and migrate to the Columbia River where they will overwinter.

The only other marine mammal which commonly uses these estuaries is the gray whale. This species is most frequently found just outside the mouths of the estuaries during the northward spring migration which lasts from March through May. During this period, it is common for some individuals to enter the mouths of both estuaries to feed.¹⁰

Shorebirds, Waterfowl, and Raptors

Grays Harbor and Willapa Bay play a critical role for migrating and wintering shorebirds, waterfowl and raptors. Over a million shorebirds stop in the bays to rest and feed each spring before continuing their migration from wintering grounds as far south as South America to breeding grounds in the Arctic. Bird numbers peak during the second half of April as western sandpipers and numerous other species pass through on their way north. Shorebirds are virtually absent from the estuaries in June, but quickly increase as they begin their southward migration from the breeding grounds. While most shorebirds pass through to points farther south, thousands of dunlin and black-bellied plovers spend the winter in the estuaries.

More than twenty-five species of waterfowl occur in these estuaries including brant, pintail and American wigeon. Eelgrass beds play a crucial role in supporting hundreds of thousands of ducks and geese from mid-September through mid-May.

Grays Harbor and Willapa Bay are used by many other species for nesting and feeding including bald eagles, double-crested cormorants, great blue herons, Caspian terns and western gulls. Other species that breed elsewhere but spend a portion of their life in the estuaries include brown pelicans, common terns, marbled murrelets, common murre, rhinoceros auklets and several species of loons, grebes and gulls.¹¹

6.3 Archeological Sites

Geographic Site Locations:

- (1) East side of Long Beach Peninsula from Oysterville to point west of Jensen Point, Long Island
- (2) Nemah River mouth
- (3) Seal Slough
- (4) Sunshine Point
- (5) Stanley Peninsula
- (6) Beachside, Sandy Point to Bay Center
- (7) East side of Palix River mouth
- (8) Both sides of Bone River mouth

Resources:

Potential archaeological resources: village sites, shell middens, camp sites, food gathering sites. Remains of fish weirs are in intertidal zone and in deeper water.

Seasonal Sensitivity:

Sensitive at all times of the year.

Recommendations:

Areas identified on overlay (see map display) are generalized sensitive areas. Archeological sites are likely to be located at mouths of freshwater streams or adjacent upland areas.

Cleanup crews should stay on established access routes (roads, trails, etc.) and avoid disturbing adjacent areas. Fish weirs in Grays Harbor are very sensitive and booming or skimming operations should avoid if possible or use extreme care in these areas. Recommend Office of Archeology and Historic Preservation staff or cultural resource person on board if necessary.¹²

Footnotes

⁹Brian Benson, Fact sheet, *Outer Coast and Coastal Estuary Geographic Response Plan Workshop – Sensitive Species Information*, (Olympia, Washington Department of Fisheries, 4/93).

¹⁰Barry Troutman, Fact sheet, *Importance of Coastal Estuaries to Birds*, (Olympia, Washington Department of Wildlife, 3/93).

¹¹Jeff Skriletz, Fact sheet, *Importance of Coastal Estuaries to Birds*, (Olympia, Washington Department of Wildlife, 3/93).

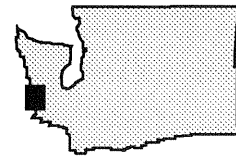
¹²Greg Griffith, Washington State Office of Archeology and Historic Preservation, 2/23/93.

OCEAN SHORES

- ▲ MARINE MAMMAL HAULOUT
- MARINE MAMMAL SIGHTING
- BIRD COLONY
- ⊞ BOAT LAUNCH

- ▨ EXPOSED ROCKY SHORE (OR SEAWALL)
- ▨ WAVE-CUT PLATFORM
- ▨ FINE GRAINED BEACH
- ▨ COARSE GRAINED BEACH
- ▨ SAND/GRAVEL BEACH

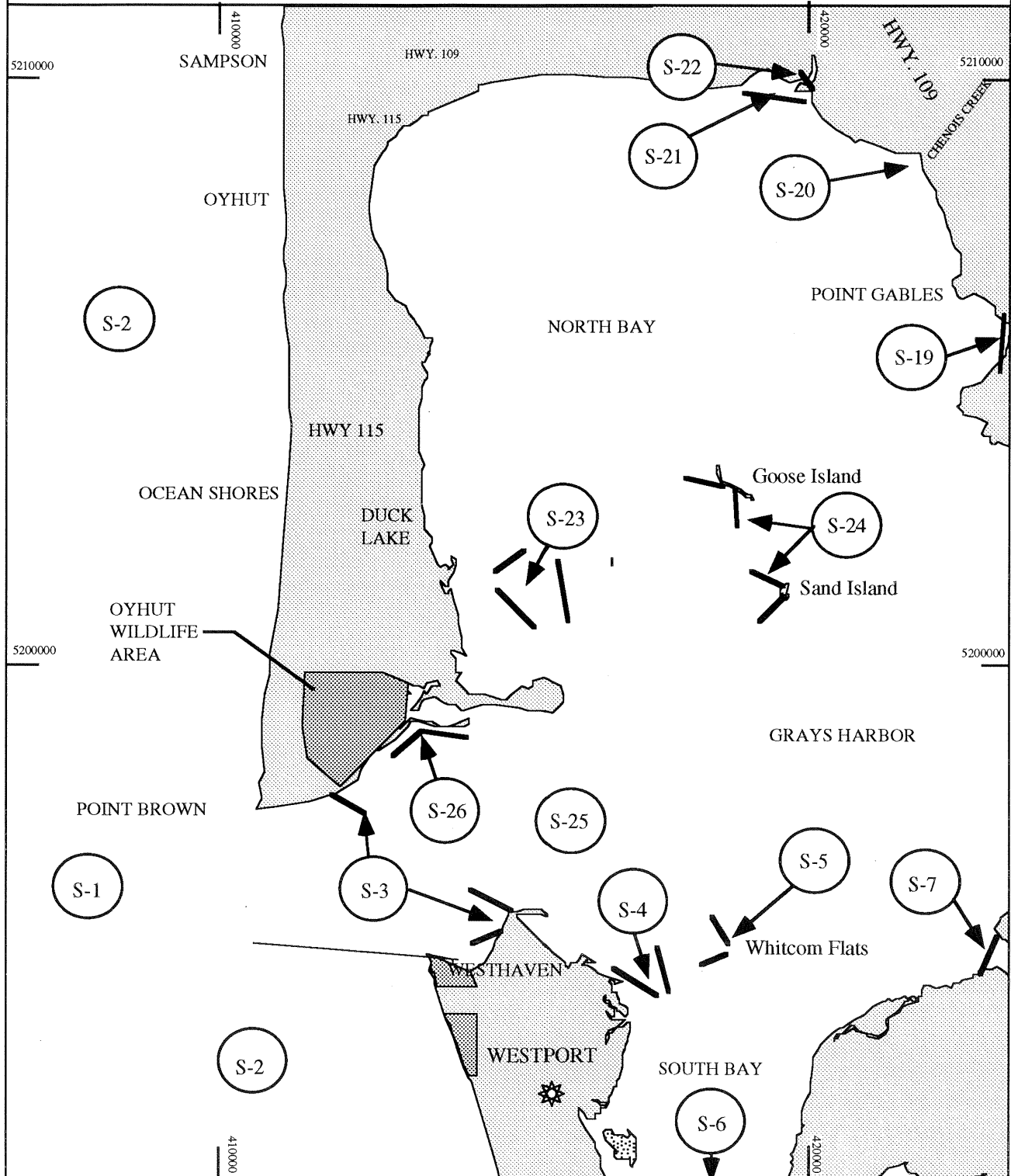
- ⊞ KELP
- ▨ PARK OR PUBLIC LAND
- ▨ RESERVATION
- ⊞ TOWN OR CITY
- ▨ GRAVEL/COBBLE/RIPRAP BEACH
- ▨ EXPOSED TIDAL FLAT
- ▨ SHELTERED ROCKY FLAT
- ▨ SHELTERED TIDAL FLAT
- ▨ MARSH



2500 meters 5000 meters
8200 feet 16400 feet

1 inch equals 2500 meters

PROTECTION STRATEGIES

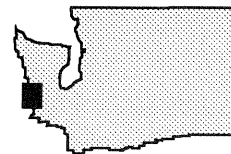
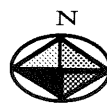


GRAYLAND

- ▲ MARINE MAMMAL HAULOUT
- MARINE MAMMAL SIGHTING
- BIRD COLONY
- ⊠ BOAT LAUNCH



- ⊞ KELP
- ▨ PARK OR PUBLIC LAND
- ⊞ RESERVATION
- ⊞ TOWN OR CITY



▨ EXPOSED ROCKY SHORE (OR SEAWALL)

▨ WAVE-CUT PLATFORM

▨ FINE GRAINED BEACH

▨ COARSE GRAINED BEACH

▨ SAND/GRAVEL BEACH

▨ GRAVEL/COBBLE/RIPRAP BEACH

▨ EXPOSED TIDAL FLAT

▨ SHELTERED ROCKY FLAT

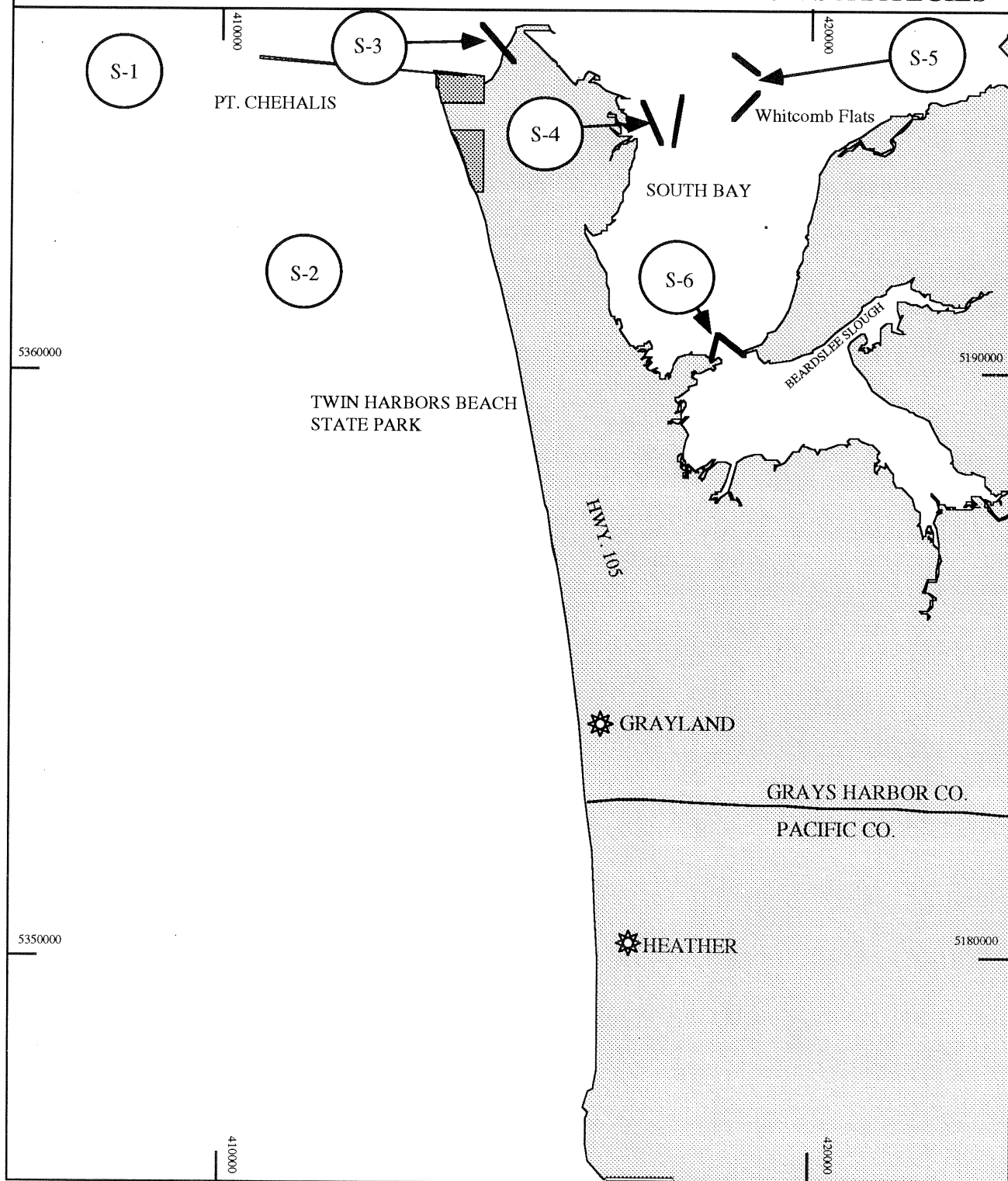
▨ SHELTERED TIDAL FLAT

▨ MARSH

2500 meters 5000 meters
8200 feet 16400 feet

1 inch equals 2500 meters

PROTECTION STRATEGIES



HOQUIAM

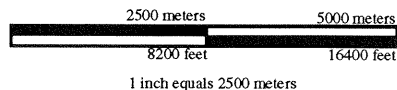
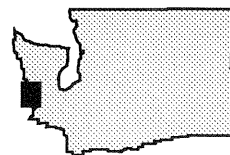
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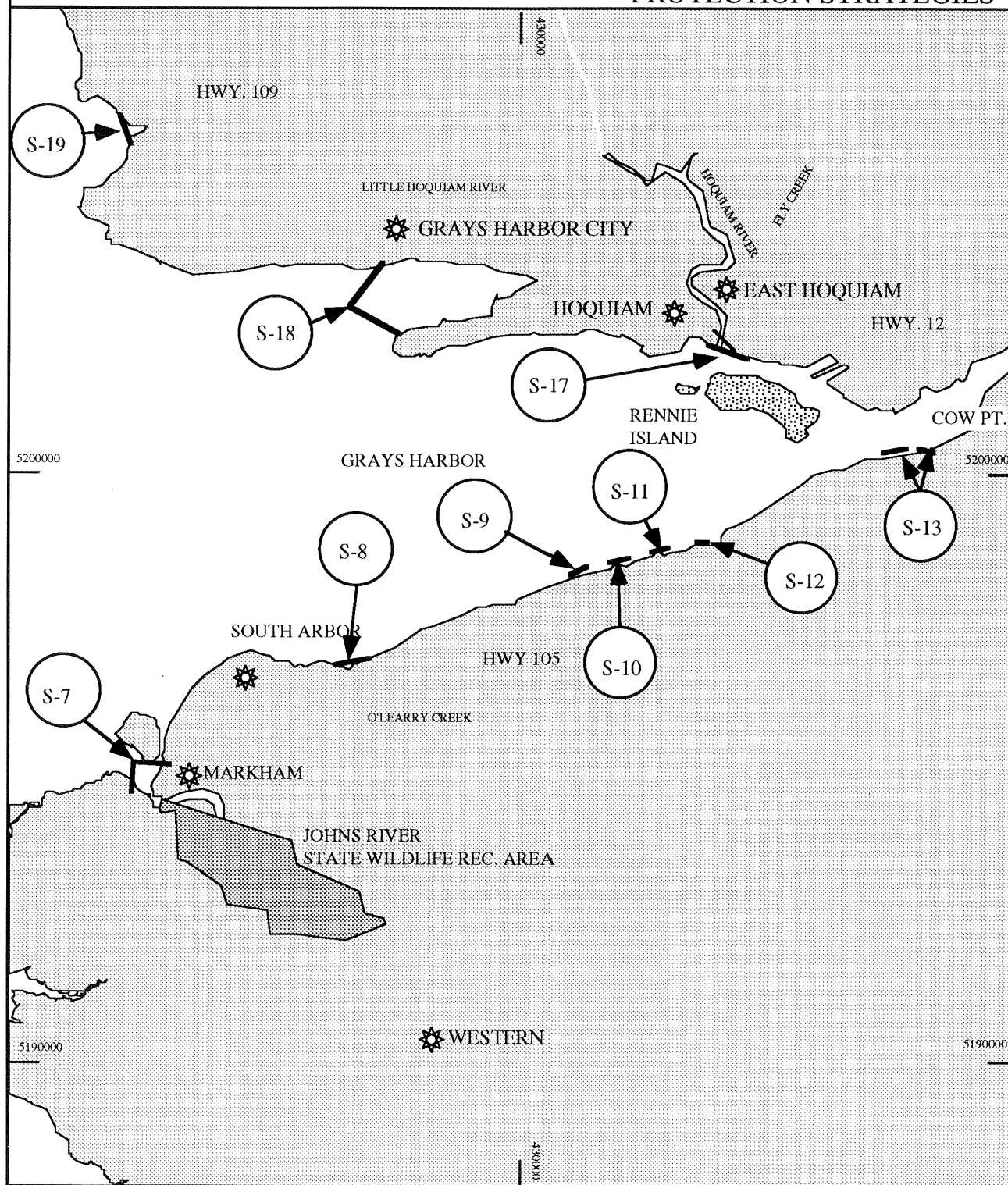


- ⊗ KELP
- ▨ PARK OR PUBLIC LAND
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PROTECTION STRATEGIES



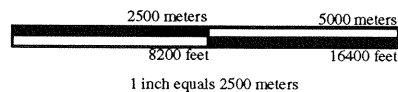
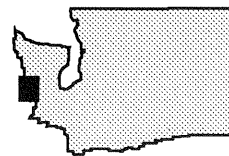
CHEHALIS RIVER

- MARINE MAMMAL HAULOUT
- MARINE MAMMAL SIGHTING
- BIRD COLONY
- BOAT LAUNCH

- EXPOSED ROCKY SHORE (OR SEAWALL)
- WAVE-CUT PLATFORM
- FINE GRAINED BEACH
- COARSE GRAINED BEACH
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- KELP
- PARK OR PUBLIC LAND
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PROTECTION STRATEGIES

